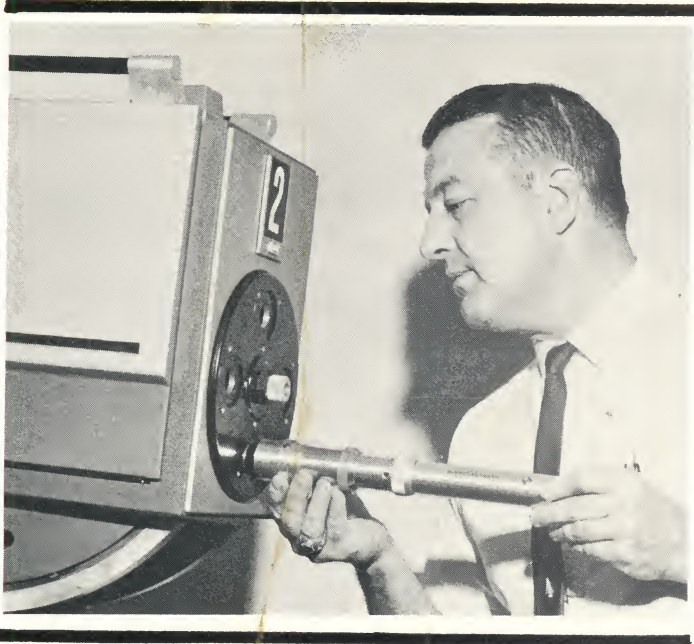


ZOLOMATICS

C O R P O R A T I O N

5875 MELROSE AVENUE / HOLLYWOOD, CALIFORNIA 90038 / TELEPHONE (213) 463-7900

252 DIASCOPE



PRECISION VIDICON CAMERA
ALIGNMENT

USES BUILT IN INTERCHANGEABLE
TEST SLIDES

PROJECTS TEST PATTERN DIRECTLY
ON CAMERA TUBE

ELIMINATES ERRORS OTHERWISE
EXPERIENCED IN CAMERA ALIGNMENT

SELF CONTAINED TYPE "C"
BATTERIES

BRINGS TUBE INTO FOCAL PLANE
(0.69")

The Model 252 Diascope is a precision optical device designed for use with vidicon television cameras. The Diascope is a pre-tested alignment guage and when fitted onto the camera in place of the lens, projects the built-in test pattern onto the photo sensitive surface of the vidicon and produces an image of the test pattern on the monitor. This image will show an exact replica of the original pattern if the surface of the vidicon tube is in optical axis and at a distance of 0.69" from the front of the "C" mount of the camera. Otherwise the camera and the vidicon have to be realigned optically, mechanically, and electronically until the correct image appears on the monitor of the system.

A variety of test slides for different electronic and optical checks are available.

The optical system is especially designed to ensure an evenly illuminated field of the built-in test pattern onto the front of the vidicon tube. The Diascope has a "C" mount and fits onto any standard vidicon camera.

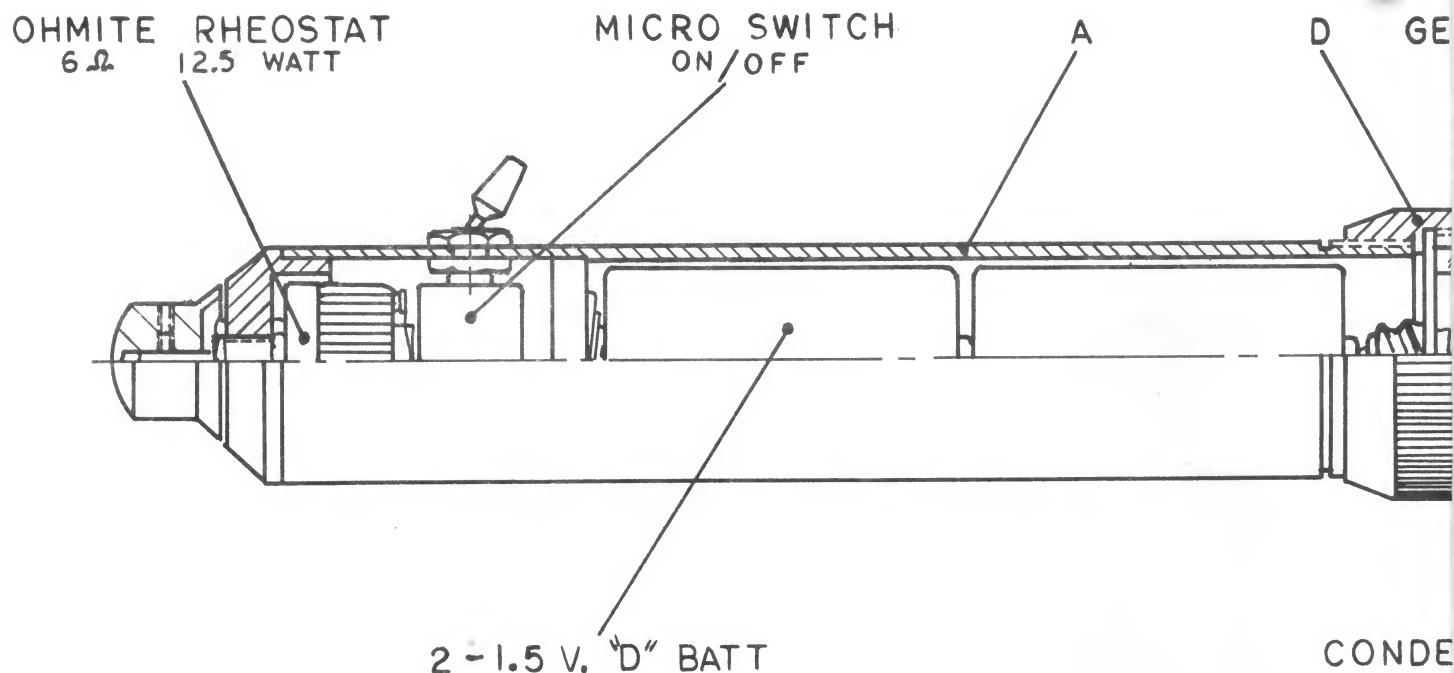
The Diascope has a built-in light source for illumination which consists of an optical condenser system to guarantee an even illumination. The bulb is a standard GE 2½ volt miniature lamp, type 233. It obtains its power from two "C" type standard flashlight batteries. A rheostat, mounted on the rear of the Diascope, permits the lamp brightness to be changed in order to compensate for the differences in vidicon tube sensitivity.

The 252 Diascope provides a method of alignment which eliminates a great majority of errors in vidicon television camera alignment.

The Diascope is 12" long and has a maximum diameter of 1.8". It is supplied in an attractive carrying case which has space for additional batteries and test slides. The test slides available are: Continental Burst Chart (With Diascope) #110, Retma Chart #111, Gray Linear #112, Logarithmic Chart #113, Ball Chart #114, Indian Head Chart #115, Line Chart #116, Window Pattern Chart #117, and Marconi #118.



Z O L O M A T I C S T Y P E " 2 5 2 "
V I D I C O N T E L E V I S I O N A L I G N M E N T G A U G E
(D I A S C O P E)



THE IMPORTANCE OF ALIGNING A VIDICON CAMERA

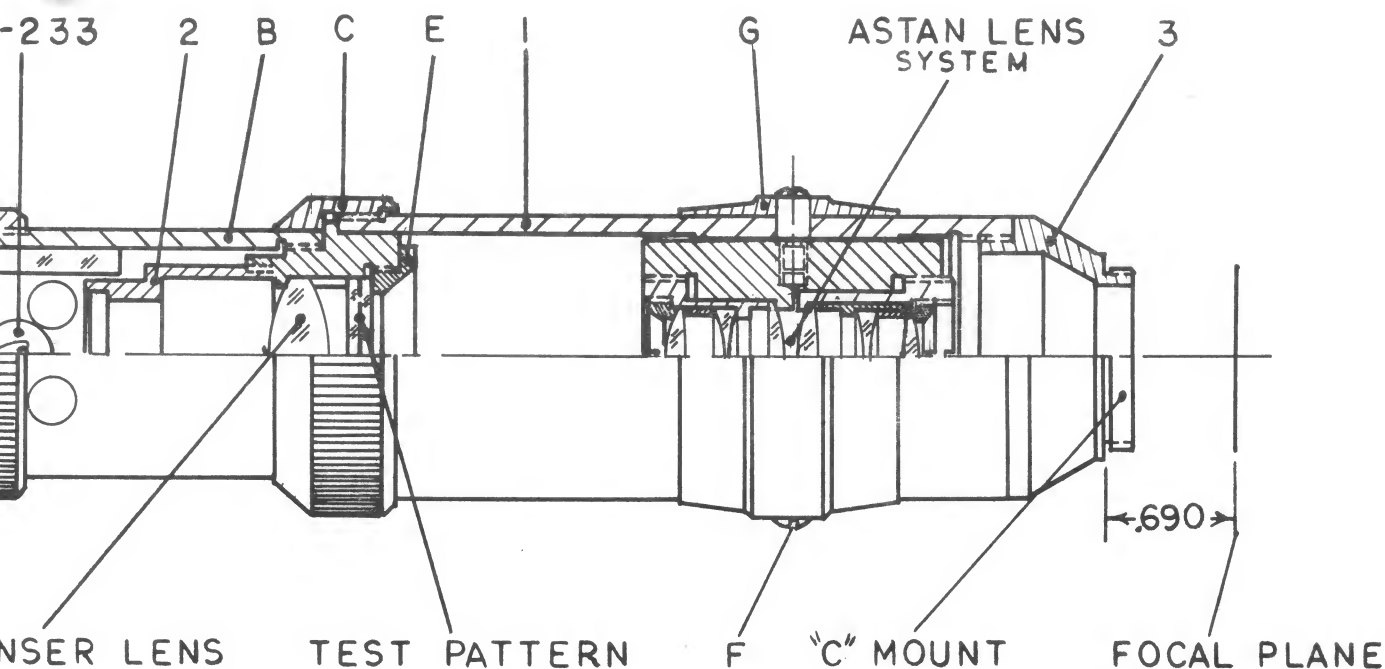
When a Vidicon camera is being used for broadcasting or in a closed-circuit television system and is not showing a good picture on the screen, it is very often due to a faulty alignment of the Vidicon tube. Unlike motion picture cameras and the regular still cameras which all have fixed focal planes that never need adjusting, the Vidicon camera has its focal plane in the Vidicon tube itself. Since the Vidicon tube can easily be moved, the focal plane is not in a fixed position. Besides, if this tube is not in exact optical axis with the camera lens, the picture on the television screen will show distortion or lack of clarity. Furthermore, while using a zoom lens and the Vidicon tube is not correctly aligned, the image on the screen will not be in focus throughout the entire zoom range.

In order to align vidicon cameras most engineers resort to the old system of placing a resolution chart in front of the camera and pointing the camera at the chart to make the necessary mechanical and electronic adjustments until the picture on the screen seems just about right. This is a system of trial and error that can never be completely accurate unless the whole system is lined up on an optical bench and all these procedures naturally take considerable time. Furthermore there is the added disadvantage of having to move the camera from its location to the workshop --- where such testing facilities are located.

THE ZOLOMATICS DIASCOPE

The Zolomatics Diascope 252 has been designed for the purpose of providing engineers with an instrument to correctly align in a matter of a few minutes, any Vidicon camera, on the spot.

The Diascope has a built-in resolution chart. Its own light sources are provided by easily replaceable standard flashlight batteries. When the Diascope is screwed onto the camera, in place of the lens, and the switch is turned on, an image of the resolution chart of the Diascope will be projected onto the Vidicon tube. It



is this image on the monitor that will show whether or not the Vidicon tube is in correct alignment. Any blurring or distortion, or if the image is not properly centered are indications that the tube needs aligning and the Engineer only needs to make the necessary mechanical and electronic adjustments to the camera until he gets a truly centered picture with clear and sharp definition. No more is required. Under no circumstances is it necessary to touch the Diascope since the instrument is pre-aligned by the factory. Once a camera has been properly aligned with a Diascope all the lenses used on the camera will focus correctly.

OPERATION INSTRUCTIONS FOR ZOLOMATICS DIASCOPE "252"

Since the Diascope is a self contained unit, no outside power supply source is necessary. Just two ordinary "D" batteries of 1.5 volts each are required.

FOR INSTALLATION of the Diascope to the Television Camera simply remove the lens that is in front of the Vidicon and screw the Diascope into the same place. The optical system of the Diascope is factory adjusted in such a manner that the projected test chart on the vidicon is IN FOCUS AT THE FOCAL PLANE of any standard "C" mounted vidicon lens. The system is in itself optically aligned so when mounted to the camera it provides the optical basis for the camera system as well. In case the image is not in focus on the vidicon, move the vidicon axially to a position until optimum focus of the projected pattern is achieved. If the pattern is not in the center of the field, again this must be corrected by the movement of the vidicon at right angle to the optical axis of the system because the mounted pattern in the Diascope is exactly optically centered to the Diascope and the "C" mount. Therefore any discrepancy in mechanical alignment must be done on the vidicon on its mounting.

It will be necessary in most cases to align the pattern vertically and horizontally to the face of the vidicon, respectively to the Yoke of the camera. In

order to achieve this simply loosen the cap nut on the Diascope marked (C) and turn part (B) until vertical and horizontal alignment of the pattern is achieved. Then re-tighten the cap nut (C) and the pattern will always be horizontally aligned for this particular camera.

THE DIASCOPE has a built in rheostat allowing variation of the intensity of the lighting system. This variation ranges from to foot candles measured at the surface of the vidicon. This variation of light is sufficient to match in sensitivity, the majority of vidicon tubes in use.

TO REPLACE BATTERIES, simply unscrew battery carrying tube (A) and push two "D" type batteries into the tube; but observe that the base of the batteries are positioned towards the switch of the carrying tube and the tip of the batteries (positive point) towards the lamp.

THE LAMP may be replaced by unscrewing nut (D). A brass socket is carrying the type GE-233 miniture screw-socket lamp; no soldering of the lamp is necessary.

After the mechanical alignment is completed, you may proceed to align the television camera electronically. When alignment of the entire system is completed, remove Diascope and any "C" mount lens should now focus according to the calibration marked on the lens.

Replace the Diascope in its carrying case, check that switch is in the OFF position. During transport or long time storage, remove the batteries from the Diascope, place into the little space of the carrying case provided for them.

There is space provided in the carrying case to take additional test patterns which are readily replaceable in the Diascope. For this purpose, remove nut (C) and unscrew pattern retaining nut (E). Remove the slide from the barrel: replace the required slide; refit pattern retaining nut (E); assemble Diascope tube and tighten knurled nut (C). The Diascope is now ready to use again with a different test pattern.

USERS OF ZOLOMATICS DIASCOPE "252"

Medical College of Virginia

General Dynamics

Mutual Electronic Supply

Tele-Measurements

Industrial Television Corporation

Applied Electronics, Toronto

Andrews Hardware

Granger Associates

North American Aviation

Ampex Corporation

General Electric

Lear-Siegler Corp.

R.C.A.

Cape Kennedy (NASA)

Sony Corporation

Z O L O M A T I C S C O R P O R A T I O N

5875 MELROSE AVENUE

HOLLYWOOD, CALIFORNIA 90038

(213) 463-7900

Z O L O M A T I C S C O R P O R A T I O N

5875 MELROSE AVENUE

HOLLYWOOD, CALIFORNIA 90038

(213) 463-7900

April 4, 1966

Mr. T. Nelson
Box 1546
Poughkeepsie, N. Y.

Dear Mr. Nelson -

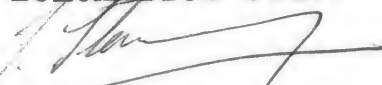
We are enclosing literature on our Diascope
#252, which sells for\$495.00
f.o.b. Hollywood. This price includes a
Continental Burst Chart, and the prices for
additional Charts are as follows:-

Retma Chart	#111	\$30.00
Linear Gray Scale	#112	 25.00
Logarithmic Chart	#113	25.00
Ball Chart	#114	 25.00
Indian Head Chart	#115	 25.00
Line Chart	#116	 25.00
Window Pattern	#117	 25.00
Marconi	#118	 25.00

We take this opportunity to enclose literature
on some of our other products that may be of
interest to you.

Sincerely yours,

ZOLOMATICS CORP.



Charles Stenning
Sales Manager

CS/sm
Encl.